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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHOE, HENRY

ART UNIT PAPER NUMBER

2817

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,994

Applicant(s)

DOY, TONY

Examiner

Henry K. Choe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-9 and 11-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 and 13-26 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8,9,11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/23/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nodar et al (Fig. 1).

Regarding claim 1, Nodar et al (Fig. 1) discloses an amplifier circuit comprising an amplifier (12) having an output (VOUT) inherently coupled to a load (since the circuitry of Fig. 1 of Nodar et al would not work without a load), the amplifier (12) having a first (a supply lead connected to the terminal 22) and second (a supply lead connected to the terminal 32) power supply lead, the first power supply lead (a supply lead connected to the terminal 22) connected to a power supply voltage (+VCC), and a charge pump (14) DC voltage to voltage converter having an output (the terminal generating -VCC), the DC voltage to voltage converter (14) having a power source lead (the lead connected between charge pump 14 and the terminal 22) connected to the supply voltage (+VCC), the output (the terminal generating -VCC) of the DC voltage to voltage converter (14) connected to the second power supply lead (a supply lead connected to the terminal 32), and the DC voltage to voltage converter (14) generating an output voltage (-VCC) at the output (the terminal generating -VCC) that is substantially equal in magnitude (VCC) to some negative quanta (-) of the power supply

voltage [(VDD); It should be noted that the $-VCC$ voltage is substantially equal in magnitude and opposite in sign with the voltage $+VCC$].

Regarding claim 5, the power supply voltage ($+VCC$) is a positive voltage.

Regarding claim 6, the power supply voltage ($-VCC$) is a negative voltage.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nodar et al (Fig. 1).

Regarding claim 2, Nodar et al (Fig. 1) further comprising the circuit (10) connected to common ground (GND) by two external capacitors [(28 and 34); see column 6, line 43; It should be noted that the left terminal (+) of the capacitor 34 is connected to the ground and bottom terminal (-) of the capacitor 28 is connected to the ground through the power switch 212a; see Fig. 5b]. As described above, Nodar et al (Fig. 1) described all the limitations in the claim 2 except for that the two external capacitors in the range of 0.47 to 3.3 micro farads. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific values of the external capacitors, since they are based on the routine experimentation to obtain the optimum operating parameters.

Regarding claims 8 and 11, Nodar et al (Fig. 1) discloses an amplifier circuit comprising signal amplifying means (12) for inherently driving a headphone [a load can be read as the claimed headphone and since the circuitry of Fig. 1 of Nodar et al would not work without a load, Nodar et al (Fig. 1) inherently includes a load], the amplifying means output (VOUT) directly coupling the headphone (load), negative voltage generator means (14) for inverting an input voltage supply VDD (VCC) to an output voltage supply $-VDD$ ($-VCC$) of equal magnitude but opposite sign, the negative voltage generator means output (the terminal generating $-VCC$) coupled to the negative voltage lead (a lead connected between the operational amplifier 12 and $-VCC$) of the

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amplifying means (12), and the negative voltage generator means (14) being a charge pump type of generator means (CHARGE PUMP). As described above, Nodar et al (Fig. 1) discloses all the limitations in the claim 8 except for that the amplifying means biased to ground voltage. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific values of the bias voltage for the amplifying means, since they are based on the routine experimentation to obtain the optimum operating parameters.

Regarding claim 9, Nodar et al (Fig. 1) discloses an amplifier circuit comprising at least one headphone [a load can be read as the claimed headphone and since the circuitry of Fig. 1 of Nodar et al would not work without a load, Nodar et al (Fig. 1) inherently includes a load], signal amplifying means (12) for inherently driving a headphone (load), the amplifying means (12) is directly coupled to the headphone (load), a negative voltage generator means (14) providing a negative voltage (-VCC) substantially equal to but negative (-) in magnitude (VCC) to the positive voltage supply (+VCC), and the negative voltage generator means (14) being a charge pump type of generator means (CHARGE PUMP). As described above, Nodar et al (Fig. 1) discloses all the limitations in the claim 9 except for that the headphone being biased at zero volts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific values of the bias voltage for the headphone, since they are based on the routine experimentation to obtain the optimum operating parameters.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nodar et al (Fig. 1) in view of Ogita (Fig. 1).

Nodar et al (Fig. 1) discloses all the limitations in the claim 12 except for that the load being a headphone. Ogita (Fig. 1) discloses an amplifier circuit comprising a headphone (8) which is directly connected to an output of the amplifier 7. It would have been obvious to one of ordinary skill in the art, at the time the invention was made would have found it obvious to have employed the headphone at the output of the amplifier of Nodar et al (Fig. 1), such as taught by Ogita (Fig. 1) in order to provide the advantageous benefit of allowing sounds to have a greater expanse in the depthwise direction (see column 2, lines 27-28).

Reasons for Allowance

Claims 7 and 13-26 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 7, the closest prior art of record, Nodar et al (Fig. 1) does not disclose the following limitations: the second amplifier having an output directly coupled to a second headphone. Regarding claim 13, the closest prior art of record, Nodar et al (Fig. 1) does not disclose the following limitations: a second headphone amplifier and its functional limitations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent numbers (6,011,440; 5,760,652) are the amplifiers with the charge pumps.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Choe whose telephone number is (571) 272-1760.



HENRY CHOE
PRIMARY EXAMINER

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